Aqua-Vu

UNDERWATER VIEWING SYSTEM

MC2x OWNERS MANUAL

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SOFT CASE
MONITOR
CABLE &
CARRYING
SHUTTLE
BATTERY
FRONT
VIEWING
FIN
TEMP-
TECH
SENSOR
BALLAST
WEIGHTS
MULTI-COLOR LIGHTS
DETACHABLE SUNSHIELD
CHARGER
THUMBSCREWS
Aqua-Vu
Aqua-Vu

ABOUT YOUR AQUA-VU MC2x

With your Aqua-Vu MC2x underwater viewing system you will become an aquatic explorer much like a skin diver — but without getting wet! Swim your camera over the bottom landscape of your fishing grounds while watching "what's really down there." Or, with camera suspended down a hole in the ice, see how approaching fish react to your bait.

Turn on the MC2x's Multi-Color camera lights to experience the mystique of viewing bottom and fish in low-light conditions. The ultra-bright Multi-Color lights penetrate water better than white light or infrared at night.

Your MC2x system is equipped with Nature Vision, Inc.'s Temp-Tech feature. A sensor in the camera sends continuous water temperature readings to the lower right portion of the monitor display. You see bottom, fish, and water temperature simultaneously.

However you employ your Aqua-Vu MC2x — for pure fun as a discovery tool, for learning while fishing and observing nature, for watching small children or pets, or for security purposes you will experience a fascinating new "view". Your eyes will be glued to the monitor screen!

The MC2x is available with 60- or 120-foot cable options (Choose from models MC2x-60 or MC2x-120.)

IN YOUR MC2x PACKAGE. . .

The package contains Aqua-Vu MC2x components. You'll be viewing-ready in a few minutes!

- Monitor (weatherproof; attaches to the Carrying Shuttle; tilts up and down for convenient viewing)
- Carrying Shuttle with handle (allows cable and camera storage; tiltable monitor attaches to it)
- Soft custom Carrying Case
- Camera with Multi-Color light option and 60- or 120-foot cable
- Detachable Sunshield (stores conveniently on carrying shuttle when not in use)
- Battery (12-volt., 7-amp)
- Battery Charger
- Ballast Weights (for open-water viewing)
- Front-viewing Fin (keeps camera forward-looking as it's pulled through the water)

If any of the above items are missing, contact your retailer immediately.

EASY SETUP

Your Aqua-Vu MC2x requires no complex assembly. Follow these simple steps:

1. Connect the monitor to the Carrying Shuttle (a one-time procedure) using the two black plastic-headed thumbscrews provided. (You will tighten and loosen these thumbscrews every time you use the Aqua-Vu MC2x — for positioning/tilting the monitor for the most convenient viewing, as well as for carrying and stowing the unit.)

2. Plug the camera cable into the "CAMERA IN" port (a one-time procedure).

3. Place the battery into the battery well in the carrying shuttle, with battery terminals towards the lower end of the unit (opposite from handle). Position the battery lock tabs to secure the battery in place. Connect the red wire clip to the red terminal on the battery (red to red). Connect the black wire clip to the black terminal on the battery (black to black).

You may also power the Aqua-Vu MC2x via an Auxiliary Power Cord accessory that plugs into a cigarette lighter in vehicle or boat. The MC2x can operate off any 12-volt power source. (The Auxiliary Power Cord accessory is available through retailers, or online at www.aquavu.com.)

TESTING YOUR UNIT

1. VIEWING AN IMAGE. Locate the ON-OFF-ON/LIGHT switch at the right end of the control line-up. Turn the switch to the ON position. Look at the monitor screen. You should see an image. Slowly move the camera, pointing it towards room furniture, your dog, or even your feet. You should see a “live" image!

2. CHECKING THE CAMERA’S MULTI-COLOR LIGHTS. Turn the ON-OFF-ON/LIGHT switch to ON/LIGHT. Look at the face of the camera. You should see bright green and red lights. An image of whatever the camera "sees" – your face or the living room wall — should appear on the monitor. (Note: Use the ON/LIGHT position to activate the MC2x’s multi-color light source to enhance viewing in low-light conditions.)

If you fail to see an image on the monitor while conducting these tests, see the Troubleshooting section of this manual.

OPEN-WATER USE

Ballast Weights and Front-viewing Fin

Underwater video cameras may be lowered into the water from breakwaters, docks, and fishing piers, as well as from anchored boats and pontoons. Innovative bank fishermen use them, too. Much of the open-water viewing by anglers is done from boats while drifting or slow-trolling on lakes, or from boats dealing with stream current. For best control of the camera in most of these open-water situations, use the Ballast Weights and Front-viewing Fin included with your Aqua-Vu MC2x.

1. Line up the predrilled holes of the ballast weights with those on the camera's underside. Attach the Ballast Weights to the camera by means of the two steel bolts and two nylon locknuts.

2. Locate the two predrilled holes at the rear of the camera and use the two nylon screws and two nylon locknuts to attach the Front-viewing Fin. (The Front-viewing Fin helps maintain a forward-looking viewing posture as the camera moves through the water.)

When attaching weights and fin to the camera, notice that the holes match, but with a "tight fit" to prevent accidental loss. The nylon locknuts require tightening with a pliers. Note: We recommend removing weights and fin for ice fishing.

Lower the camera and view!

Begin your viewing trip by simply lowering the camera to the bottom. (Don't worry! The camera won't break if you bump a rock or suddenly "hit bottom.") In most waters, fish relate to bottom structure. So, while drifting or slow-trolling, you'll need to guide the camera over the ups and downs of bottom contours. You will quickly learn how to "swim" the camera over bottom terrain. With cable in hand, simply raise or lower the camera, paying out more or less cable depending on depth and boat speed. As you move along, you should see on your monitor screen a continuous picture of the passing bottom and the fish-holding watery zone just above it. When viewing over soft bottom, make sure the camera is actually above the bottom and not plowing or "stirring up" the muck. Remember, if you can't see bottom, raise or lower the camera to "look" for it.

If your camera becomes snagged, maneuver the boat so the direction of pull is the same as it was when the camera became snagged. A little jiggling or light tugging will usually enable you to back the camera out of a snag. Avoid pulling the camera through heavy weed cover or thick brush. With your Aqua-Vu MC2x, you will be fascinated, and often surprised, by the ever-changing view of underwater scenery: rocks, weeds, other bottom features — and fish!

(For more advice and viewing tips see Frequently Asked Questions in this manual.)

ON THE ICE

Your Aqua-Vu MC2x is an invaluable ice fishing tool which steps beyond mysterious flashes on a depthfinder to actually "see" the real picture. Take advantage of these key benefits:

- View bottom structure and distinguishing features – Observe weedlines and weed characteristics, sand versus muck, big rocks versus small rocks, transitions from one bottom type to another. What a big help in precisely locating fishing holes or fish house!

- Sharpen your fishing techniques – Watch your bait and see how approaching fish react to it. Learn what lures, colors, and jigging actions attract fish and trigger strikes.

- Identify fish as to species and size – Seeing the fish " in person" helps solve mysteries about depthfinder signals and helps with decisions about fishing techniques and whether to stay or leave.

- Search out new fishing grounds – Move from spot to spot, always boring two holes a few feet apart – one for your camera, the other for your bait. Test-fish for a few minutes in each spot. It's possible to choose or eliminate potential fishing spots on the basis of "seeing" or not seeing fish as you move around while prospecting.

That special viewing hole!

Most ice fishing camera owners bore a special "camera hole" several feet from the fishing hole. Lower your bait or lure to about 6 inches above bottom. Turn on the MC2x and lower the camera through the camera hole. Raise it slightly off bottom so you have a view of the bottom and the water above it. Slowly twist the camera cable until you glimpse your bait. Carefully adjust the cable so the bait is centered on the screen. This camera positioning provides a view of the bait plus areas just beyond and to each side of it — ideal for watching bait and approaching fish! Some anglers rest a bait bucket or other object on the cable to maintain camera depth and position. Others clamp the cable to a stick placed over the hole. Another option: Camera Positioning Stand accessory makes it easier to maintain camera position for watching your lure and the surrounding area. (Available from retailers or online at www.aqua.vu.com.)

Remove the Ballast Weight and Front-viewing Fin for ice fishing

For ice fishing, most camera users remove the open-water Ballast Weight and Front-viewing Fin. If weight is needed, a simple clamp-on lead depthfinder is usually enough for ice fishing use. This weight can be positioned along the bottom or back keel of the camera to control the viewing angle. In most cases the camera will work best in a horizontal position, but there may be times when you'll want to view at an up or down angle.

TEMP-TECH FEATURE

Nature Vision's Temp-Tech, a feature beginning with Aqua-Vu's 2002 models (including your Aqua-Vu MC2x), provides the user with a continuously updated Fahrenheit water temperature reading on the lower right portion of the monitor screen. There is nothing to turn on or off, nothing special to do. The temperature reading comes up automatically, about 10 seconds after the unit is turned on. Temp-Tech permits the angler to link water temperature and fish location patterns, and to explore relationships between temperature and fish behavior, including responsiveness to baits and lures. (Note: The temperature reading is accurate only in the water, not in the air.)

THE BATTERY AND CHARGER

The Aqua-Vu MC2x includes a 12-volt, 7-amp sealed and spillproof lead acid battery designed to fit securely in the carrying shuttle. The battery has a one-way relief valve to release excessive gas pressure in case of improper charging. (For battery installation, see No. 3 in the "Easy Setup" section towards the front of this manual.)

Make sure the battery is fully charged before each use. Recharging after every viewing session is recommended. Expect 8 to 12 hours of continuous operation from a fully charged battery, depending on use of the Multi-Color lights. Cold temperatures will also reduce operating time.

Following a few simple rules will prolong battery life and contribute to efficient use of your Aqua-Vu MC2x:

- Charge the battery as soon as possible after purchase.
- Store the battery at moderately cool temperatures. Service life is considerably shortened at temperatures above 85 degrees F.
- Fasten the battery securely in its compartment, and minimize shock to the battery.
- Guard against overcharging. The 500 mA charger provided will not overcharge the battery in most cases. Do not leave the charger connected for more than 24 hours. Do not use a charging system with more than a 2-amp output. High rates of charge can heat up and destroy a battery in a few hours.
- Avoid prolonged battery storage without charging. Batteries stored in a discharged state may initially appear to be damaged and will accept less current than normal. Usually the battery will accept increasing amounts of current, but may take longer than normal to reach a fully charged state. If there is no response the battery may have been discharged too long to recover. Freezing a discharged battery may permanently damage it.
- Always dispose of a battery in a legal and environmentally safe way.

THE FUSE

Between the "Camera In" and “Video In" ports is a “1 AMP" fuse compartment. (A fuse is factory installed.) This fuse is designed to blow when the battery is connected backwards, or if a short occurs in the system. If the fuse is blown replace it with a standard 1 amp automotive fuse available at hardware and auto parts stores. To remove the fuse, push the cap in and rotate counter-clockwise.

GIMBAL MOUNT OPTION

You may want to mount the Aqua-Vu MC2x monitor on the console (or in the electronics locker) of your boat, or somewhere other than on the portable carrying shuttle that comes with the unit. You can easily make the switch. You’ll need a Gimbal Bracket that can be purchased from Aqua-Vu dealers or online at www.aquavu.com. With a Gimbal Bracket in the desired place, loosen the two thumbscrews holding the monitor to the MC2x unit, remove the monitor, and (using the two thumbscrews) attach it to Gimbal Bracket.

VIDEO RECORDING WITH THE AQUA-VU MC2x

Your Aqua-Vu MC2x’s “VIDEO-OUT” jack is for connecting your MC2x to a handheld camcorder, or to a larger external monitor. The MC2x will work with any camcorder or any monitor that accepts the NTSC video signal (the North American standard) and has a "VIDEO-IN” jack. Use an RCA style patch cord that comes with most camcorders (also available at most consumer electronics stores.) For video recording, plug one end of the cord into the "VIDEO-OUT” jack on the MC2x; plug the other end into the"VIDEO-IN” jack on your camcorder. You should be able to watch your Aqua-Vu monitor and record at the same time.

CARING FOR YOUR AQUA-VU MC2X

Your MC2x requires minimal "common sense" maintenance.

1. The battery requires regular charging. (See battery charging instructions.) Always disconnect the MC2x red and black power leads before charging the battery. Never charge while the unit is connected.

2. Clean the monitor and camera lens periodically by using mild dishwashing soap, warm water, and a very soft cloth. Do NOT use window cleaner or alcohol-based products, since they may cause permanent fogging.

3. Periodically run your fingers over the entire length of the cable, feeling for nicks or other cable damage. A damaged cable should be returned to the factory for repair. (See the Service section of this manual.)

4. As a precautionary measure, dry off your monitor after it gets wet from rain or boat spray.

5. Never tug on fishing line that accidentally gets wrapped around the camera cable. Line can cut and damage the cable.

FREQUENTLY ASKED QUESTIONS

How far can I see?

Naturally, the clearer the water, the farther you can see. As a general rule, the camera can see twice as far as the human eye in water — meaning that if you can see 3 feet down you will be able to see approximately 6 feet in front of the camera. But this is just a rule of thumb, and all bodies of water will vary. For anglers studying bottom structure, 2 feet of visibility is sufficient for underwater viewing.

When do I use the Multi-Color lights?

The Multi-Color lights in your MC2x camera are designed for use in low-light situations. Turn the power switch to the "ON/LIGHT" position for maximum visibility in low light. The Multi-Color lights will provide a minimum of twice the visibility of traditional infrared lights.

How do I steer the camera?

For viewing in the direction of travel use the Front-viewing Fin. Slowly troll (less than 2 mph) or drift along the structure you intend to view. With the Front-viewing Fin, the camera will face the boat's direction of travel. The opposite holds true when using the Back-viewing Fin which positions the camera for viewing in the direction opposite from the boat's travel. (The Back viewing Fin, not included with the unit, is available from dealers or online at www.aquavu.com.)

Can I splice the camera cable to obtain more length?

No. Attempting to splice in additional cable violates the waterproof integrity of the camera and cable, voiding the warranty.

Can I attach my camera to a downrigger?

Yes, by using the Cam-Rigger accessory. You can attach your camera to your downrigger cable at any depth, allowing you to watch your lure — given adequate water clarity.

How fast can I troll with my camera?

It depends on depth, and also on the length of cable you have out, which determines water resistance or "drag" The deeper you go, with more cable out, the more drag there will be, requiring slower travel for good viewing. Generally, for best viewing, we recommend going less than 2 miles per hour. Remember, the slower you go, the more detail you will see.

Can I use my MC2x in saltwater?

Yes. All Aqua-Vu cameras are saltwater-rated, using stainless steel hardware and materials that are impervious to corrosion.

Will my MC2x work in subfeezing conditions?

Aqua-Vu systems are designed to operate at temperatures ranging from minus-40 to 120 degrees F. Expect your battery life to decrease in cold conditions.

What is the viewing angle of the camera?

Your camera lens has a viewing angle of 92 degrees. At 4-1/2 feet in front of the camera you will be viewing an image approximately 6 feet wide.

What is the resolution of my monitor screen?

Your screen has 420 lines of resolution for crystal-clear viewing.

Can I connect my Aqua-Vu to a larger monitor or to a hand-held recorder?

Yes. For use in a permanent fish house or in a large boat with a built-in video system, your Aqua-Vu can be hooked up to a larger external TV, provided it has a "VIDEO-IN" jack. The same holds true for a handheld video recorder. See the "Video Recording with the Aqua-Vu MC2x" section of this manual for more details.

Is Aqua-Vu legal?

To our knowledge, there are no restrictions anywhere that regulate the use of Aqua-Vu underwater viewing systems. Aqua-Vu is an approved pre-fishing tool for B.A.S.S. And P.W.T. events, and for other tournament trails across the country.

SOME CAUTIONARY NOTES

- The Multi-Color lights are extremely intense. Do not stare directly into the lights.

- The charger supplied with this unit does not disconnect or turn off automatically when a full charge is reached. Please use caution when charging your battery.

- When adjusting the angle of the monitor, always completely loosen the thumbscrews to avoid damaging the teeth on the mounting bracket. Tighten the thumbscrews when the monitor is at the desired angle. Always make sure the thumbscrews are tight after tilting the monitor down for carrying or stowing.

- Always keep camera cable away from propellers.

TROUBLE-SHOOTING

NOTHING HAPPENS (SCREEN FAILS TO LIGHT UP) WHEN THE SWITCH IS IN EITHER THE ON OR ON/LIGHT POSITION.

- Battery not connected. Properly connect the battery: red to red, black to black.
- Battery not charged.
- Fuse may be blown. (See The Fuse section of this manual.)

THE SCREEN LIGHTS UP, BUT I SEE NO PICTURE.

- Camera cable is disconnected. (Plug the camera cable into the "Camera-In" jack).
- Camera cable might be damaged. (Consult the "Service" section in this manual.)

SCREWS FOR BALLAST WEIGHTS AND FRONT-VIEWING FIN WON'T GO THROUGH HOLES IN THE RUBBER CAMERA HOUSING

- With a screwdriver, screw the bolts through the predrilled holes. (The holes are a little undersized for firmly gripping the bolts to prevent their loss.)

I LOWER THE CAMERA TO THE BOTTOM BUT CAN'T SEE ANYTHING.

- The camera may be buried in soft bottom! (Raise the camera off the bottom.)
- The water might be very murky. Select the ON-LIGHT position on the MC2x switch to activate the Multi-Color lights in your camera for viewing in low-light conditions.

THERE IS A NICK IN THE CAMERA CABLE.

- See the "Service" section of this manual for instructions on returning the camera for repair.

THE IMAGE ON MY SCREEN HAS A DARK MARGIN AROUND IT, OR GETS BLURRY.

- You're seeing on-screen symptoms of a weakening battery. Charge the battery, or install a charged battery.

ONE-YEAR LIMITED WARRANTY

Nature Vision, Inc., warrants this product to be free from defects in materials and workmanship for one year from the date of purchase. This warranty applies to customers who properly fill out, clip, and return the warranty card included on the back cover of this manual. Failure to complete and return the warranty card voids this warranty. Nature Vision, Inc., will, at its sole discretion and without charging the customer, repair or replace any components that fail in normal use. Failures due to abuse, misuse, or unauthorized alteration or repair, are not covered. The warranty is valid only for the original owner.

EXTENDED WARRANTY

A two-year extended warranty is available through Nature Vision, Inc. You may purchase this warranty within 30 days of purchasing the unit. Use the order form in this manual or visit *www.aquavu.com*

HOW TO OBTAIN SERVICE

We want our products to provide you with a pleasant on-the-water experience. That means maximum customer satisfaction. If you have a problem with your unit within 30 days of purchase, you may return it to your retailer for replacement (subject to retailer's stock). After 30 days, please contact the factory for a return authorization number (RA#). No service returns will be accepted without this pre-return authorization, which must be clearly marked on the outside of the returned package. Nature Vision, Inc., retains the exclusive right to repair or replace the unit at its discretion.

To obtain a Return Authorization Number, contact the factory at (866) 777-0733. You may also e-mail service requests to aquavu@naturevisioninc.com.

The customer is responsible for shipping costs associated with returning the unit to Nature Vision, Inc. Nature Vision, Inc., will pay for shipping the repaired unit back to the customer. After obtaining a Return Authorization Number, the unit should be securely packed and shipped ("pre-paid freight" and insured) to Nature Vision , Inc., at:

Nature Vision, Inc.
RA#_____
213 NW 4th Street
Brainerd, MN 56401
Canadian customers please return to:
Nature Vision, Inc.
C/O Unicity One Step
RA#_____
1460 Clarence Ave.
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